

"Dedicated to Public Service"

THE RADIATOR



W6RHC
IRLP #8170
Echolink #322788



<http://www.gearsw6rhc.org>

P.O.Box 508 Chico, CA 95927-0508

Founded: August 13 1939

April 2010

Coming Events

O.A.R.S. GENERAL MEETING

Friday, April 9th 2010, at 7:00 p.m., at St. Paul's Church Parish Hall, 1430 Pine St., Oroville

G.E.A.R.S. GENERAL MEETING

Friday, April 16, 2010, at 6:30 p.m. at Butte County Search & Rescue Building-2591 Morrow Lane, Chico

G.A.R.S. GENERAL MEETING; 7:00 p.m.
Wednesday April 14, at the Lutheran Church Hall, Artois

A.R.E.S. MEET: Friday April 23, at 6:30 p.m.
Butte County Search & Rescue Bldg.

FCC EXAMS - GEARS VEC

Sunday June 6, 2010

At the Butte County Search and Rescue Building.
Written test at 2:00 p.m. For information or pre-registration call Gene WA6ZRT, (530) 345-3515.

Club Events:

News and items of interest
GEARS Calendar...all inside.

Remember to check out
Our excellent Website: gearsw6rhc.org



Picture courtesy EVARC

This YAESU FT-2900R/E will be raffled at
GEARS May, 2010 annual auction.
Tickets are: \$5.00 each, or 5 for \$20.00



Contact Evelyn Weir k6qxc—530-345-8257
Or at evelynk6qxc@digitalpath.net

There will also be two consolation drawings

One will be for a Magmount antenna and one
to be for
50 feet of RGU8 cable with PL259 connectors.

Installing Your VHF, UHF Rig in your Vehicle

My thoughts on writing this article is to tell of my experience installing VHF rig in my vehicles that I have, and how I did it. I wanted to personalize this as much as I could by using "you" as the actual installer. My intention here is be instructional; to pass good advice, tips, cautions and well tested information.

(w6akf Stephen)

Ever since I was first licensed in 1974 I have had a mobile rig in my vehicles'. My first installation I did myself was in a 1973 VEGA with a TS-7400A which was about the size of one of my text books in college, and just about as heavy. Years later it was a small truck, same rig, then an older Honda; again same rig. After years of good service the old 7400A gave out and it was time for a complete change of radio and vehicle. I had keep notes of each installation with each of the vehicles I had. I improved and refined my skills and the materials I had used.

Today the rigs are substantially smaller and the interiors of the new vehicles are all plastic and crammed with electronic everything. Enter the 2002 Honda. It was a prime target for new 2 meter radio and antenna. I found the perfect spot for the rig and now I had to find the rig that would fit in the spot.

After a few days of measuring and searching ham radio retailers the top contender was the ICOM IC-V8000. Small, compact and with a front fire speaker, its measurements fit the space with extra space on all sides.

The antenna posed a different problem than the usual "center of the roof" installation. The Honda has a sun roof, which when the proper switch is pushed, retracts and exposes the driver and passengers to the current weather conditions. Guys like this. Gals don't ---- something about messing up their hair.

So any way the decision was to obtain a trunk mount that could incorporate a 1/4 and 5/8 wave antenna. A Larsen NMO Trunk Lid Mount got the nod.

The DC Line

The most challenging part of your installation is getting the DC line through the fire wall. In the past, when the engine compartment didn't have a lot of environmental additions you could find a spot very quickly. The interior was mostly empty space and you could lie down on the floor at the front seats and gaze into the cavernous space behind the dash, putting in a mobile VHF, UHF rig was easy to do. Not so with these newer vehicles. It's a maze of Wires and electronic gizmos.

. Even though it looks daunting, there is always a way to get the power cable through the fire wall. Most of the holes in the fire wall are there so wiring, tubing, etcetera can get from the engine to the interior of the vehicle.

After the holes are punched in the fire wall, rubber boots are added to cover the holes 3 to 4 inches in diameter, or smaller to prevent air and debris from getting in to the interior. You will be using one of these ports to get your DC line from the battery to the interior. You should look and find one of those “boots n’ holes” that the hole was punched, plugged and nothing going through it. That is the one you want to use. If not, you will have to use one that has cables and tubing going through it. If by luck you find one that is empty on the driver’s side this would be the most logical spot to find an entrance to the inside. If not, there may be one in the middle or the passenger’s side of the firewall. When you have decided the one you want to use, try and determine the approximate area where it will be inside.



If you can pry the rubber boot off the fire wall that is not occupied, do so, and make the hole through the boot with an ice pick. Enlarge the hole so the DC cable will slide down it easily, then replace it. If you can’t do that, the next step your going to have to be very careful with what you are about to do.

You can't remove the boot will have to use a sharp object to penetrate the boot from the fire wall and in to the inside. I suggest you use an ice pick to do this to pick penetrate the boot.

Caution: Push very slowly! When the pick has penetrated a quarter of the way, stop pushing and go inside and see if it has penetrated to the inside, you may have to hand search to find it, once you have found it, check and see if it is clear to push it all the way in. You may have to do this a number of times before you find the end of the pick. Once you have done that, leave the pick where it is. It is now time to run your DC line from the battery to the inside.

Most vehicle battery’s are on the right or left side near the front of the vehicle. It’s best to find and use a boot n’ hole that is on the same side of the battery, that way you avoid a long “cross-over” from one side to the other. If you do have to do a cross-over make sure you don’t do a cross-over behind or in front the radiator.

Follow the vehicles electrical harness back to the fire wall. Some of these harnesses might be wrapped in black “snake” tubing, use these as your route to the rubber boot.

There are two styles of battery’s use in trucks and cars these days. The terminals are either on the top or the side of the battery. Top mount are the easiest to do, let’s address that one first.

Top Mount Terminals Battery Harness

Caution: Remove the fuses from the battery harness fuse holders before you start any of the electrical work below.

If you are planning to install new or old VHF, UHF rig in your vehicle, most of them come with the **Red-Black** power cable. One end will be split and tined with one or two fuse holders close to the split end, the other end will have one part of a power connector on it that will connect to the other half that is on the back of the rig. The ends with the fuse holder(s) you should attach a set of 12-10 spade terminals; you can either crimp or solder these.

If you decide to solder the terminals, you will have to take a file or knife and scrape some of the coating off to get down to bare copper so your solder will flow on to the terminal. These 12-10 terminals have a yellow plastic cowl on the terminals and should fit over the bolt that secures the cable connection to the battery terminal. Check to make sure the spade terminals fit over the battery bolts before you solder or crimp the terminals to the **Red-Black** cable.

Tip: I would suggest use about three feet of this to connect to your battery, however this length will vary

for your application. Care should be taken in routing this harness away from moving parts and heat sources.

At the other end of the three foot battery harness, attach a set of 30 amp Anderson Powerpoles® you will need a pair to do the battery harness installation and a pair for one end of the **Red-Black** cable that will be routed to and through the fire wall mated to battery harness. Make sure the fuse holders are between the 12-10 spade terminals and the Powerpoles® on the battery harness.

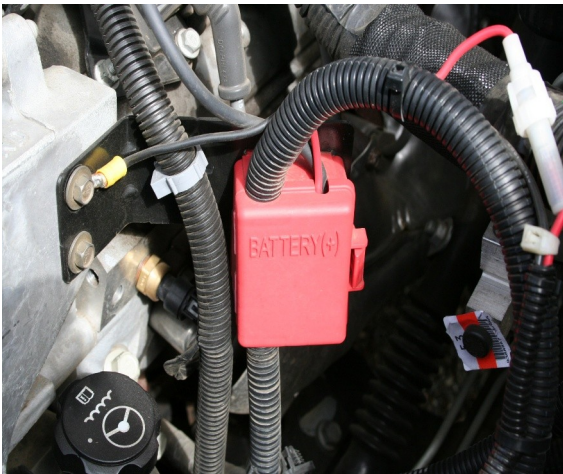
Check the ARES page on the GEARS home-page of what they look like and a brief description of how they fit together.

After you have completed the battery harness and attached the Powerpoles®, replace the fuses and check that you have voltage at the Powerpole® end, and then remove the fuses.



Side Mount Terminals Battery Harness

This application is different than the top mount because your DC line will not be attached directly to the battery. The side mounts posses a problem that the spade terminals mentioned above will not fit well with the side mount battery terminals. These battery terminals have small bolts that go through a rubber insulator on the terminal and is screwed in to the battery, these bolt heads are so small that these are not a good secure connection to attach your DC line to. The manufacture has designed a Remote Positive Terminal so the vehicle can jumped if needed. Some vehicles have this terminal in a **Red** box marked Positive (+). This is where you want to attach the **Red** lead of your battery harness.



Caution: I suggest to you that you should detach the positive lead from the battery before you loosen the nut on the RPT box.

Caution: I suggest to you that you should detach the positive lead from the battery before you loosen the nut on the RPT box.

The **Black** lead can be attached to any bolt attached to the chassis. Try and find a chassis bolt close to the RPT box. Follow the instructions in the Top Mount Terminals section to attach the **Red/Black** Powerpoles® to your battery harness. When you attach the spade terminals to the RPT, replace the fuses; and take a voltage check at the Powerpole® end bolt close to the RPT box. Follow the instructions in the Top Mount Terminals section to attach the **Red/Black** Powerpoles® to your battery harness. When you attach the spade terminals to the RPT, replace the fuses; and take a voltage check at the Powerpole® end of the battery harness to make sure you have voltage to that point and then take the fuses out of their holders after you have made the check. The next task to be done is to attach a pair of the Powerpoles® to the ends of the **Red/Black** cable that will mate to the end of the battery harness and the other end will be inserted in to the fire wall and in the interior.

The next task will be route the **Red/Black** cable to the rubber grommet that you will be using. The best way to do this is to use the existing wire harnesses. Some of these harnesses might be wrapped in black “snake” tubing, use these as your route to the grommet.

Tip: I suggest using plastic tie wraps to secure the **Red/Black** cable to the snake tubing, don't tighten the tie wraps to tight, just enough to secure the cable to the tubing.



Use the shortest, easiest and most logical route you can to the rubber boot. Lay the **Red/Black** cable out on the path you want to take without using the tie wraps. Once you have determined the route start applying your tie wraps. Use them where you think they should be placed to secure the DC until you get one foot of the rubber boot. Don't cinch the tie wraps as of yet, that will be done as soon as you have pushed all of the **Red/Black** cable in to the interior. Lay out the so **Red/Black** cable there will not be any hang-ups while it goes through the fire wall. Remove the pick, if you can, remove the boot and push the boot on the **Red/Black** cable, slide it down the cable. Insert the end of the cable in to the hole and push all of the cable into the interior. Replace the boot in the hole.

If the boot can't be removed, slowly push about 2 feet in, and then check to see if you can reach the cable and pull the remainder in. Tighten up your tie wraps, don't crush the snake tubing. Cut the excess of the tie wrap off.

Now that you have the end of the **Red/Black** cable in the interior, rout the cable to where you will be mounting your rig. Use caution in your route keeps it from dangling down where passengers and driver might get it tangled up in their feet; keep it up in the dash board area. Find the place you want to place your rig and bring the cable to that point.

Make sure you have enough cable to reach the floor, and then add two feet to that. This will leave you enough cable to work with to add the Powerpoles®.

After you have placed the Powerpoles® on the interior cable, replace the fuses in their holders and check the voltage. You should have 12V DC at that Powerpole® connector. You will now need to put the Powerpoles® on the half of the power connector that will connect to the connector on the back of the rig. Cut one foot behind that connector. Make sure you include the attached fuse holder(s) of the **Red/Black** cable, attach the Powerpoles®. Once you have done this, connect the Powerpoles® together. You should have **Red/Red Black/Black**. Connect the two halves of the power connector. Check your rig to see if it lights up. Once you have you done this, mount your rig in its mounting bracket.

. Use 2 tie wraps to wrap up the remainder DC line and **Red/Black** (separately) and push them up under the dash and secure them with another tie wrap if necessary.

The antenna application and placement will be up to you where you want to place it on your vehicle.

I have installed both of my vehicles with this application many years ago and I have never had a problem with any of the materials I have incorporated in this installation.

Realizing I had little experience installing a roof mount antenna and lacking some of the tools to do this kind of work, I contacted a local company who installs police and fire radios in the city's police and fire units. I talked to the tech that was going to be doing the work and told him what I wanted. In about an hour it was all done. The mounting bracket was mounted with a steel plate attached through the plastic cowl and the antenna drilled in to the center of the roof and mounted and the cable run down to the floor behind the center console



Stephen
W6AKF

stphenmcd1@comcast.net

WORDS OF WISDOM FROM THE PAST AND FOR THE PRESENT.....

Ray Watkins, March 2006.

There has been a lot of discussion lately about how we portray the image of Amateur Radio. It reminds me of what Rodney Dangerfield used to say "I don't get no respect". We all know we're one of the best kept secrets around but deciding how to describe what we're all about seems to be the main theme. One comment I heard was to talk down the hobby aspect of Amateur Radio and call it a service. Well that's all well and good but if we look at the definition of Hobby it will say: "An occupation, activity or interest engaged in primarily for pleasure". Now I don't believe any Ham I know can deny that they are involved in Amateur Radio because they enjoy it. However, just because we enjoy our "Hobby" doesn't mean we are not mandated by our privileges to provide communication services when called on. So I suggest we take the approach of telling it just like it is. We are Amateur Radio Operators who under the condition of our licensing privilege also provide backup communications in times of need as a service to our community, our state, and our country.

(As applicable now as it was then!)

Information From The GEARS Net Coordinator

I want to clear up the discussion we had on Sunday why I decided to change the format of our nets of not accepting stations check-ins by proxy.

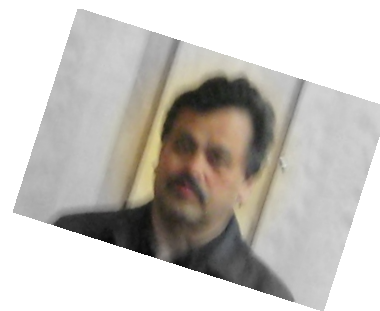
When our country needs help with disasters, wars, ect the US government calls on our military to put "boots on the ground" in the affected area. It would be the same with our local communities during an emergency. This analogy can be applied to ham radio also. For our service to be effective to help with disasters, we must have "hams with microphones in hands" to be a viable source on communications for our local communities. It is important to have accurate list on active stations that check in on a regular basis with "microphones in hand" using his/her call present when the net is being called. Stations who have someone else check in for them by proxy are not "an on the air" station at the time of the emergency and not useful to the net.

I hope this makes my decision to change the net format a little clearer for you.

Lester
KG6KUO



Kg6zoa-Anna kf6ykq-Chuck



& N6yck-albert



Kg6kuo-Lester & ki6knz-James



VEC TESTING

June 6th, 2010
AT BUTTE COUNTY
SEARCH & RESCUE
BUILDING

All Classes
Technician, General and
Extra.

Contact: WA6ZRT-
Gene Wright
530-345-3515



Caps embroi-
dered with your
name and your
call sign may be
ordered by con-
tacting WA6ZRT
-Gene Telephone
#530 -345-3515

.The April VEC was held
March 28th in order to
avoid any conflict with
Easter events on April
4th.

Request to Participate in the Chico Air Show- September 24-26. (as vendor)

Hello,

My name is Aaron Jay, I am the Vendor Coordinator for the 2010 Chico Airshow. I have been involved in the airshow one way or the other since it conception. I also am no stranger to the world of aviation, I was practically born on the tarmac. It has been energizing to see this event gain momentum each year. This year I am excited to see the Canadian Forces Snowbirds gracing our beautiful skies once again. They are such a outstanding aerobatic flight team.

I am writing today asking you to mark your calendar, September 24-26 for this great weekend. I would also like you to invite you to either attend or participate as a vendor at this year's show. If you have participated as a vendor before, you know what a great success it can be. If you would like to participate again, or would like to join us for the first time, please contact me for more information.

Aaron Jay

Chico Airfest Vendor Coordinator
p. 530.342.9925 fax. 530.343.9925

Randall and Krista have usually represented GEARS at the Chico Air show, but, as Randall's communication (below) represents, they will be tied up with another matter of some importance.....Randall's information is fairly inclusive regarding items needed. We of course do not have access to Special Olympics equipment, however, several of us have tables and canopies which may be utilized by our volunteers.

"Here's the info on the Chico Air Show this year. Krista and I will be unable to attend in any way/shape/form. This is the weekend of our wedding.

Can we get some others to put this on? We typically use Special Olympics equipment for this event (i.e. canopy, tables, etc.).

I have also brought along my laptop, GPS, and APRS toys to "simulate" APRS. We also have used the club generator and some rigs to do both HF 20meters and VHF/UHF. The repeater of course works quite well from the airfield.

Sorry to pass this off to others, but we just won't be able to help this year.

P.S. The event is free for our organization so it is just a matter of aligning our insurance and letting them know that we need a larger space to hold our folded dipole antenna and strapped to either a) water bottles or b) airplane tiedowns. We also need to let them know that we will be using a generator (it is quiet enough)."

At the April 16 meeting, we should be able to put together coordination of volunteers and necessary items. Sounds like a fun weekend.

Save the Date!

**For the 5th Annual
Chico Air Show!
September 24-26 2010**

**Featuring the
Canadian Forces
Snowbirds Jet Team!**



*After performing at the Chico Air Show in 2008, the Canadian Forces Snowbirds are coming BACK to Chico! Chico is the only Northern California city east of San Francisco to host a military jet team this year - sure to draw huge crowds!





Don't miss your chance to be a part of this exciting event!



Food, commercial, craft, and non-profit Vendor opportunities available!

For more information please contact:
Aaron Jay, Vendor Coordinator
530.342.9925 or airshowvendor@sunset.net
www.chicoairshow.org

The GEARS Newsletter Staff:

Editor and Publisher.....Dorothy Post
Printing & DistributionSuzanne Jessen KG6IZM
Website.....Stephen McDermott W6AKF

The Radiator is a monthly publication of the Golden Empire Amateur Radio Society (GEARS). It is the policy of the Editor to publish all material submitted by the membership provided such material is in good taste, relevant to amateur radio, of interest to GEARS members, and space is available. Please send all submissions to the Editor – Dorothy Post by the last day of the month through the following medium: E-mail: dj@posthouse.us

Club Officers: (Board of Directors)

PresidentRandall Stone K6RCS
 Vice President.....James Hilton KI6NKZ
 SecretaryKrista Gallwitz K6KEG
 Treasurer.....Lester Mikeworth KG6KUO
 Past PresidentRay Watkins KO6TW
 Director..... Gene Wright WA6ZRT
 Director.....Stephen McDermott W6AKF
 Director.....Evelyn Weir K6QXC

Club Meetings

General Meeting Third Friday 6:30 PM
 Board Meeting Third Friday 9:00 PM

Club Net

Tuesdays 8:00 PM 146.850 MHz

Sacramento Valley Traffic Net

Nightly 9:00 PM 146.850 MHz

ARES Net

Butte Glenn Mondays 8:00 PM 146.850 MHz
 Yuba Sutter Thursdays 7:00 PM 146.085 MHz
 Meetings Fourth Friday 7:00 PM

Other Nets

Sac Valley
 Section Net
 7:00 PM 2nd Wed of
 the month
 146.085 MHz
 440 Wed. Night 8:00 PM Wednesday 440.650 MHz
 520 *Simplex* 8:00 PM Thursdays 146.520 MHz
 Golden Bear 7:00 PM Daily 3975 kHz
 Willie Net 8:00 PM Mondays 1930 kHz
Western Public Service System (WPSS)
 Winter
 Summer
 5:00 – 7:30 PM
 6:00 – 8:30 PM
 3952 kHz
 3952 kHz

ARISS (International Space Station)

Uplink 144.490 MHz Downlink 145.800 MHz
 Hope-1 satellite: all uplinks are in 145Mhz band:
 All downlinks are in 435Mhz band

FUTURE EVENTS**EMERGENCY COMMUNICATIONS
LEADERSHIP**

The third annual seminar for Emergency Communications Leadership in the Sacramento Valley Section will take place Saturday, **April 24**, 9 A.M. to 2P.M., at the U.C. Davis Sierra Foothills Research and Extension Center, 8279 Scott Forbes Rd., in Browns Valley.

BLACK BUTTE TRIATHLON-APRIL 11TH.
Please volunteer to assist this event.

WILDFLOWER CENTURY RIDE-Chico

April 25. Rain or shine. Sign up to volunteer your services during the GEARS April Meeting;

**WILLOWS HIGH SCHOOL BOOSTER
CLUB—107 MILE BICYCLE RIDE.**

May 15th: 6:00 a.m. This is a first time event. Volunteers sought from both GEARS and GARS groups. Participants leave Memorial Park downtown Willows, bike to Forest Road 7 (Alder Springs area) and then back. A bar-b-que for all, at the park concludes the event.

2010 ARRL FIELD DAY

It is time to start gearing up for ARRL Field Day, **June 26-27, 2010!** ARRL's flagship operating event -- always held the fourth full weekend in June, brings together new and experienced hams for 24 hours of operating fun.

DATE	TIME	EVENT	LOCATION	CONTACT
Friday April 9	7:00 p.m.	Oroville Amateur Radio Society General Meeting	St Paul's Church Parrish Hall 1430 Pine St., Oroville, CA	John Hunt K7XE@arrl.net 530- 589-4734
Wednesday April 14	7:00 p.m.	Glenn Amateur Radio Society (GARS) General Meeting	Lutheran Church Hall 565 Main St., Artois, CA	John Hursey N8GNV 530-329-6713 n8gnv@sbcglobal.net
Friday April 16	6:30 PM.	GEARS General Meeting	Butte Co. Search and Res- cue Bldg 2591 Morrow Lane, Chico	Randall Stone K6RCS 530-521-1318
Friday April 23	7:00 p.m	ARES	Butte Co. Search and Res- cue Bldg 2591 Morrow Lane, Chico	Steve Kaps N6NPN (530) 591-0450
June 6 th, Sunday	2:00 p.m.	VEC Test	Butte County Search and Rescue Building, 2591 Morrow Lane, Chico	Gene Wright WA6ZRT 530 345-3515

NEW SATTELITE FOR RADIO AMATEURS

December of 2009 brought a nice present to radio amateurs around the world. The Chinese "Hope-1" satellite carries a series of interesting and easy to use VHF/UHF transponders. AMSAT-NA formally designated the new satellite as Hope OSCAR 68, or HO-68. Hope-1 (or Xi Wang-1) is developed by CANSAT and is a so-called micro-satellite with educational purposes. It includes both a linear (SSB) transponder as well as a strong and sensitive FM repeater. This repeater can be used for regular voice contacts as well as digital communication with the on-board BBS. Status of the satellite is continuously transmitted via a CW beacon at 435.790 MHz. All uplinks to the satellite are in the 145 MHz band, and all downlinks in the 435 MHz band.

Satellite operators around the world got immediately enthusiastic as the satellite proved to be easy to operate. Due to its relative high orbit the 'footprint' is larger as for most other amateur radio satellites. Already in the first days after launch reports of contacts across the oceans became available. Hope-1 web-site: <http://www.camsat.cn/>